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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,223	12/31/2003	Cheng-Liang Hou	58268.00351	7148

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EXAMINER	
JUNTIMA, NITTAYA	

ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/748,223	HOU, CHENG-LIANG	
	Examiner	Art Unit	
	Nittaya Juntima	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1, and 10-13 are objected to because of the following informalities:

- in claims 1, 10, line 2, "filters for" should be changed to "filter is for";

- in claim 11, lines 2, 6, 8, 10, and 11, and claims 12 and 13, line 1, "capable of" or "capable of being" should be changed to "for" or "is", as applicable, because it has been held that the recitation that an element "capable of" performing a function is *not* a positive limitation but only requires the ability to so perform and it does not constitute a limitation in any patentable sense (see MPEP §2106);

line 3, "type" should be changed to "types."

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 6-13, and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weberhofer (US 6,014,384) in view of the admitted prior art (the specification, paragraph 0003).

Regarding claims 1, 10, and 11, as shown in Fig. 2, Weberhofer teaches a system, comprising:

A packet receiving engine (a data input point 16), for receiving packets of at least a first and second types (a first and second types read on a number of QoS classes such as CBR and UBR). See col. 4, lines 10-33, 37-45.

A plurality of buckets (a number of leaky-bucket systems, each bucket per QoS class), each communicatively coupled to the packet receiving engine (a number of leaky-bucket systems are connected to a data input point 16 via an access port), each communicatively coupled to a packet type filter of plurality of packet type filters (a mapper 18 and queues 19.1-19.4, collectively, constitute plurality of packet type filters), each packet type filter is set to filter at least one packet type. See col. 4, lines 45-53, 65-col. 5, lines 1-10, 17-26.

A bucket updating engine (counters for the leaky-bucket systems for QoS classes, collectively), communicatively coupled to the packet receiving engine (a data input point 16), for incrementing a first bucket and a second bucket. See col. 5, lines 17-22.

In addition, Weberhofer teaches that each packet type filter filters the type of packet received (a mapper 18 and queues 19.1-19.4, collectively, determine and assign the QoS class for each received ATM cell and store each assigned QoS ATM cell in a corresponding QoS queue).

However, Weberhofer fails to explicitly teach a packet handling engine, communicatively coupled to the packet receiving engine, for measuring the bucket coupled to the packet type filter that filters for the type of packet received and for transmitting the received packet if the measured bucket is above a threshold value as recited in the claim.

The admitted prior art teaches a leaky bucket in which if the bucket level is above a threshold level, a packet would be transmitted and the bucket would be decremented, therefore, it is inherent that a packet handling engine for measuring the bucket and for transmitting a received packet if the measured bucket is above a threshold value must be included. See the specification, paragraph 0003.

Therefore, it would have been obvious to one skilled in the art at the time of the invention to modify the teaching of Weberhofer to include a packet handling engine for measuring a bucket and for transmitting a received packet if the measured bucket is above a threshold value of the admitted prior art such that the packet handling engine, communicatively coupled to the packet receiving engine, for measuring the bucket coupled to the packet type filter that filters for the type of packet received and for transmitting the received packet if the measured bucket is above a threshold value would be included as recited in the claim. The suggestion/motivation to do so would have been to perform a flow control on packet transmission for each bucket.

Regarding claims 2 and 12, Weberhofer does not teach that the packet handling engine is for dropping the packet if its measure bucket is below a threshold value.

However, the admitted prior art teaches dropping a packet if the bucket level falls below a threshold value (the specification, paragraph 0003).

Given the teaching of the admitted prior art, it would have been obvious to one skilled in the art at the time of the invention to modify the teaching of Weberhofer such that the packet handling engine would drop the packet if its measure bucket is below a threshold value as recited in the claim. The suggestion/motivation to do so would have been to provide a corrective action/flow control when a high usage/congestion level occurs.

Regarding claims 3 and 13, although Weberhofer teaches the bucket updating engine (counters for the leaky-bucket systems for QoS classes, collectively, see col. 5, lines 17-22), Weberhofer does not teach that the bucket updating engine is for decrementing the measured bucket if the packet is transmitted.

However, the admitted prior art teaches decrementing the measured bucket if the packet is transmitted (the specification, paragraph 0003).

Given the teaching of the admitted prior art, it would have been obvious to one skilled in the art at the time of the invention to modify the teaching of Weberhofer such that the bucket updating engine would decrement the measured bucket if the packet is transmitted. The suggestion/motivation to do so would have been to reflect the current bucket level following a packet transmission.

Regarding claims 6 and 16, because Weberhofer teaches that high-level QoS classes can be granted an absolute priority over those of lesser value (col. 2, lines 31-46), therefore, it is inherent that the bucket updating engine must increments each bucket at different rates.

Regarding claims 7 and 17, the combined teaching of Weberhofer and the admitted prior art does not explicitly teach that a maximum value for each bucket is different. However, it would have been obvious to one skilled in the art at the time of the invention to modify the combined teaching of Weberhofer and the admitted prior art such that a maximum value for each bucket would be different. The motivation/suggestion to do so would have been to provide

different bucket maximum level/capacity to each bucket according to its QoS level and such modification of varying the maximum value of each bucket involves only routine skill in the art.

Regarding claims 8 and 18, although Weberhofer teaches that the first packet type is CBR and the second packet type is UBR, the combined teaching of Weberhofer and the admitted prior art does not explicitly teach that the first packet type includes unicast and the second packet type includes multicast and broadcast.

However, an official notice is taken that it is well known in the art that there are two main types of communication, i.e., point-to-point which includes unicast and point-to-multipoint which includes multicast and broadcast, and that CBR may include unicast cells and that UBR may include multicast and broadcast cells. Therefore, it would have been obvious to one skilled in the art at the time of the invention to modify the combined teaching of Weberhofer and the admitted prior art such that the first packet type would include unicast and the second packet type would include multicast and broadcast in order to enable both point-to-point and point-to-multipoint packets to be classified, stored, and serviced separately according to the type of communication.

Regarding claims 9 and 19, Weberhofer teaches that the first packet type includes packets having a first QoS level (CBR) and the second packet type includes packets having a second QoS level (UBR). See col. 4, lines 10-33 and col. 5, lines 46-51.

4. Claims 4-5 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weberhofer (US 6,014,384) in view of the admitted prior art (the specification, paragraph 0003), and further in view of Zhang (US 7,130,917 B2).

Regarding claims 4-5 and 14-15, the combined teaching of Weberhofer and the admitted prior art does not teach that the bucket updating engine decrements the measured bucket by a length of the transmitted packet/a token.

However, Zhang teaches decrementing a measure bucket by a length of the transmitted packet/a token (the packet is transmitted if the token bucket has enough tokens, (>= L) and the number of tokens in the bucket will be updated accordingly, i.e., update token bucket: token# = token# - L, col. 4, lines 38-55, therefore, L which is the packet length must include one token).

Given the teaching of Zhang, it would have been obvious to one skilled in the art at the time of the invention to modify the combined teaching of Weberhofer and the admitted prior art such that the bucket updating engine would decrement the measured bucket by a length of the transmitted packet/a token as recited in the claims. The suggestion/motivation to do so would have been to update the current bucket level after packet transmission as taught by Zhang (col. 4, lines 38-43).

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nittaya Juntima whose telephone number is 571-272-3120. The examiner can normally be reached on Monday through Friday, 8:00 A.M - 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nittaya Juntima
October 24, 2007

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